International collaboration or promotion of non-conventinal energy sources

4791. SHRI SATISH PRADHAN: Will the PRIME MINISTER be pleased to state:

(a) the details of international collaborations signed/reached during the past three years for promotion of non-conventional energy sources;

(b) whether a critical review of various schemes/projects being implemented by DNES has been undertaken and if so, the details thereof and corrections carried out in the light of findings of critical review of implementation of various schemes;

(c) whether a large number of equipment imported under the programme are not functioning for various reasons and if so, the action proposed to be taken to reactivise them; and

(d) what is the new strategy for promotion, development (R&D) and implementation of various schemes in modified from during Eighth Five Year Plan?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM): (a) For promotion of non-conventional energy sources for a variety of end-uses, the Ministry of Non-Conventional Energy Sources (MNES) has been implementing projects with international collaboration in various areas of non-conventional energy sources. Details of International Collaboration projects (including current status and financial outlays) implemented during the last three years are given in the Annexure. (*See* Appendix CLXIV, Annexure. 87)

(b) The progress of projects is periodically reviewed by this Ministry through bilateral or tripartite review meetings, mid-term evaluation meetings, etc. The Ministry has also set up panels or groups of experts and advisory committees to monitor progress of the projects. Suggesions/findings oft the review of the projects are implemented and applied accordingly for corrections during implementation of these projects.

(c) Please refer to the 'current status' of various projects, in the enclosed statement.

(d) The strategy for implementation of various projects and programmes in the non-conventional energy sources during 8th Plan period has been worked out taking into consideration the overall performance, experiences and information generated during the 7th Plan period. An integrated approach will be taken and strong linkages will be established between research institutes, manufacturers and users to make the programmes and projects more effective and beneficial. Main emphasis will be to promote awareness, standardisation, commercialisation and large scale deployment of non-conventional energy devices/equipment for supplementing energy needs of the people.

Performance of DNES

4792. SHRI SATISH PRADHAN: Will the PRIME MINISTER be pleased to state:

(a) whether Government are aware of the reported failure of Department of Non-Conventional Energy Sources (DNES) as observed; CAG report identifying atleast four major projects viz installation of solar dryers, production of alternate fuel from agro-wastes, setting up a cold storage plant using geothermal energy and solar water pumps which could not be set up in different parts of the country;

(b) if so, the details thereof and the reasons therefor; and

(c) the action plan worked out including restructuring the DNES to ensure better performance in the future?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (Shri SUKH RAM): (a) and (b) The Project identified in CAG's report were primarily research and developmental projects takn up for gaining experience in newer areas, in which some risk of failure or only partial success is also inherent. Status of four referred projects in CAG's report is given in the enclosed statement. [See below]

(c) The Ministry of Non-Conventional Energy Sources continuously review the various on going projects and utilise the experience gained in implementation of various R&D, demonstration and extension projects. The implementation strategy is appropriately modified for better performance and success on year to year basis.

An annual action plan has been prepared for the current year and steps may be considered for preparing perspective plan and restructuring, if necessary.

Statement

Status for four projects referred in CAG's report.

(i) *Installation of Solar Dryers*: The Ministry of Non-Conventional Energy Sources had sanctioned a project during the year 1984-85 for the installation of 3 Nos. of solar dryers to National Industrial Dev. Corporation Ltd. (NIDC), New Delhi (a Public Sector Undertaking). The project was a developmental project. NIDC could not implement the project even after extension of the period of implementation due to technical, design and other problems. The project was cancelled and the amount released to NIDC was got refunded in full.

(ii) *Installation of Solar Water Pumps*: The Ministry of Non-Conventional Energy Sources has sanctioned a project on demonstration of Solar Thermal Water Pumps in March, 1986 to BHEL for installation of 2 Solar Thermal Pumps at Pithoragarh and Jaipur. The Solar Thermal Pump installation at Pithoragarh is working satisfactory. Water pump installed at Jaipur did not work properly due to some technical problems related to bore well. The BHEL have been asked to dismantle the pump at Jaipur and reinstall tht same at Rudrapur premises of BHEL.

(iii) *Setting up a cold storage Plant using Geo-Thermal Energy*: The Ministry of Non-Conventional Energy Sources has sanctioned a project for design, fabrication and installation of a pilot cold storage plant using geo-thermal energy at Manikaran (HP) in March, 1986. The project was jointly sanctioned to Indian Institute of Technology, Delhi & Geological Survey of India, Lucknow. This project was first of its kind in India on geo-thermal energy exploitation. After carrying out a detailed study and R&D work, refrigeration unit was installed. However due to natural causes in the form of differential settlement of soil in the Manikaran area, the building collapsed. It appears that underground water currents of the spring caused cracks in the building. Earnest efforts are being made to have the building repaired and to see how best to utilise the set-up at Manikaran. This plant, using geothermal energy, being the first one in India, many lessons have been learnt regarding exploitation of geothermal resources in the country. The experience gained will be useful in taking projects on geothermal energy elsewhere in the country.

(iv) *Production of Alternate fuel from Agro. Wastes*: The Ministry of Non-Conventional Energy Sources has sanctioned a project entitled

"Small Scale Demonstration facility for refining and bio-conversion of lignocellulosic residues into ethanol and co-products sanctioned to IIT, New Delhi, during the year 1985-86 which has been mentioned as production of alternate fuels from agro-wastes" in the aforesaid Question. The Pilot project, with an installed capacity of 50 litres per day of lignocellulosic materials (rice straw), was successfully commissioned by IIT Delhi on 20-11-91. Since then the Plant has been run in 4 batches. Recently, some leakage problem has developed in the bio-reactors. Intensive efforts are on to overcome this problem.

Wind power generation

4793. SHRI B. K. HARIPRASAD: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that the wind power generation continues to be tardy in the country as reported in the Economic Times' dated 4th July, 1992;

(b) what is the installed capacity so far and actual generation both in terms of MW State-wise;

(c) whether it is a fact that there is still considerable potential untapped in the country and if so, what is the estimated and actually exploited potential in terms of MW State-wise;

(d) whether Government are aware that in the Western countries, as per reports in the Wind Power monthly from Denmark, there is now a move towards installation of windpower from on-shore points and if so, whether similar plans have been formulated for India; and

(e) if so, the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI SUKH RAM): (a) The article titled 'Harnessing Wind Power' which appeared in the 'Economic Times' of 4th July, 1992, gives an overall scenario of wind power development in the country and does not state that the wind power generation in the country is tardy. The Ministry of Non-Conventional Energy Sources is implementing the wind energy programme comprising wind surveys, wind pumps, wind battery chargers and grid-connected wind power projects. A resource database for wind energy is being builtup through wind survey covering 21 States/UTs. Wind power projects of aggregate capacity of about 43 MW have so far been installed in 9 States, including private sector projects. In addition, 2900 wind pumps and over 100 small wind battery charges have been installed in different parts of the country under the wind energy domonstration programme.

(b) The State-wise installed wind power capacity and cumulative generation as of july, 1992 is given below:

State	Aggregate Installed capacity (MW)	Cumulative Genalration (Million Kwh)
Tamil Nadu	22.53	92.31
Maharashtra	16.30	3.69
Orissa	1.19	1.18
Madhya Pradesh	0.59	1.60
Andhra Pradesh	0.55	1.16
Karnataka	0.55	..
Goa	0.11	0.06
Kerala	0.10	0.08